

NATIONAL TRANSPORTATION SAFETY BOARD  
DEPARTMENT OF TRANSPORTATION  
WASHINGTON, D.C. 20591

69-19

A68-35

December 23, 1968

Mr. David D. Thomas  
Acting Administrator  
Federal Aviation Administration  
Department of Transportation  
Washington, D. C. 20590

Dear Mr. Thomas:

This is to confirm the telephone conversations on December 17 and 19, 1968, between our Director, Bureau of Aviation Safety, and your Director, Flight Standards Service, in which we pointed out the findings of our investigators in the Wien Alaska Airlines F-27, N4905, accident at Iliamna, Alaska, on December 2, 1968. Our investigation disclosed chordwise fatigue cracks at Station 197 both fore and aft of the inboard fuel tank access panel on the right wing. Each of these cracks was approximately three inches long.

The Board was convinced by its findings that neither the X-ray techniques utilized in complying with AD 65-24-3 nor the interpretation of the X-ray plates were adequate to assure early detection of such fatigue cracks. We understand that these findings and the preliminary findings of your inspectors resulting from your inspection alert published December 18, 1968, formed the basis for a telegraphic AD issued on December 19, 1968, to inspect all F-27 type aircraft with 5,000 hours or more time in service for such cracks before the next 25 hours of flight and to restrict such aircraft until this inspection is accomplished.

We were pleased at the FAA's response to our recommendation and are satisfied that such inspections and followup actions, which will be taken after these initial examinations, are essential to insure against similar catastrophic accidents in the future. We would appreciate being advised of the results of the inspections required by this recent telegraphic AD.

Sincerely yours,

Joseph J. O'Connell, Jr.  
Chairman

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

69-19

WASHINGTON, D.C. 20590

JAN 8 1969

Honorable Joseph J. O'Connell, Jr.  
Chairman, National Transportation Safety Board  
Department of Transportation  
Washington, D. C. 20591



OFFICE OF  
THE ADMINISTRATOR

Dear Mr. Chairman:

This is in reply to your letter of December 23, 1968, in which you request the results of the F-27/FH-227 inspections required by our telegraphic airworthiness directive (AD) of December 20, 1968. This AD was issued subsequent to the Wien Alaska Airlines F-27, N4905, accident at Iliamna, Alaska. The results of the inspections on 59 air carrier and eight general aviation aircraft have been reported. Thirteen cracks varying in length from 1/4 to three inches in the wing cover at stations 194 to 204 have been found on eight aircraft. The total flight time on the airplanes with cracks varied from 25,600 to 28,800 hours. We have enclosed a detailed summary of the findings.

We are continuing our re-assessment of design and inspection data in order to determine the additional actions which may be needed to assure adequate structural integrity.

Sincerely,

*D. D. Thomas*

D. D. Thomas  
Acting Administrator

Enclosure

December 30, 1968

F-27/FH-227 Inspections

Carrier	No. aircraft require inspection	No. aircraft inspected to date	Remaining to be inspected	Remarks
S. E. Airways	1	1	0	Negative Results
Piedmont	0	0	0	10 FH-227s, all under 5,000 hours. Two high time aircraft inspect- ed. Negative results.
Allegheny	8	8	0	All inspections per maintenance alert. Negative results.
Mohawk	8	8	0	18 total; only 8 air- craft over 5,000 hours; 8 inspections: negative results.
Northeast	3	3	0	Negative results.
Air West	34	34	0	11 cracks N 2701 1½" @ STA 204 R. H. (X-ray) Total time 28820. 490 hours since last inspection. N 2710 2" @ STA 198 R. H. (X-ray) ½" @ STA 204 R. H. (dye check) not visible on X-ray). Total time 25620. 630 hours since last inspection. N 746L New 2" crack at STA 197 detected by X-ray in laminations 1" away from previous 2.8" crack at 198 in external skin. Previous repair @ 15900 hours takes care of "new" crack. Back in service. Total time 24440. 720 hours since last inspection. "New" 2" crack has existed 2½ years and was known at time of repair. N 2711 2 ½" cracks left wing @ STA 198 at land screw hole, ½" @ STA 197 starts at hole. Total time 26370. 650 hours since last inspection.

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Carrier	No. aircraft require inspection	No. aircraft inspected to date	Remaining to be inspected	Remarks
				<p><u>N 2705</u> 3/4" @ Str. 5 and 1" @ Str. 7 @ STA 198. Total time 28750. 90 hours since last inspection.</p> <p><u>N 2773</u> 2" @ Str. 7 and 1" @ Str. 5 @ STA 197 left wing. Total time 20710. 940 hours since last inspection.</p> <p><u>N 2777</u> Suspected crack was not present.</p> <p><u>Miscellaneous</u></p> <p><u>N 2708</u> was suspect Sunday; confirmed no cracks on Monday.</p> <p><u>N 2771</u> 1/4" @ Str. 5, thru outer skin of land rivet, 1 1/2" @ Str. 7 thru land on plate nut and outer skin @ STA 194 right wing. Total time 20530. 990 hours since last inspection.</p>
Wien	5	5	0	<p><u>4904</u> crack</p> <p><u>4903</u> 2" to 3" crack</p>
Ozark	0	0	0	<p>21 FH-227's</p> <p>No aircraft at 5000 hours (FH-227 <u>N 4215</u> 4700 hours. Scheduled for inspection 1/6/69)</p>
Avco	1	1	0	<p><u>N 1004</u> Negative results. Total time 5761 hours.</p>
S. East	1	1	0	<p>Negative. 13653 hours. 403 hours since last inspection.</p>
Johns Manville	1	1	0	<p>Negative</p>
IBM	2	2	0	<p>Negative. Total time 6848 and 5844 hours.</p>
Totals	64	64	0	<p>13 cracks in 8 airplanes.</p>